

REMARKS

Applicant respectfully requests consideration of the subject application as amended herein. This Amendment is submitted in response to an Office Action mailed on May 8, 2003. Claims 1-22 are rejected. No new matter has been added.

35 U.S.C. § 102(b) Rejection

The Examiner rejected claims 1-9, 15, 16, and 18-22 under 35 U.S.C. § 102(b) as being anticipated by Nakagomi, et al., (U.S. Patent No. 5,742,173, hereinafter "Nakagomi").

Applicant respectfully disagrees. Nakagomi did not disclose each and every element as claimed in claims 1-9, 15, 16, and 18-22. In particular, Nakagomi did not disclose the "recording an image of a surface of the substrate before having moved off the transfer chuck" element. Applicant's invention uses the image of a surface of the substrate to align and position the substrate for testing.

For instance, as can be seen from Applicant's disclosure, an image recordation device in the form of a line scanner 98 is used to record an image of a surface of the substrate. (See paragraph [0046], page 11). The liner 98 has a lens 100 that focuses on a line represented by a point 102 on each substrate. (See paragraph [0046], page 11). In one example, the lens 100 begins to focus on an upper surface of the substrate 56 while it is still located over the transfer chuck 26 and as it moves off the transfer chuck 26. The lens 100 simultaneously focuses on a line across upper surfaces of the substrates 56A-C in similar manner. A one-dimensional image of the upper surface of each substrate 100 is taken along the line represented by the location 102, and provided by the line scanner 98 to an image capture device such as memory of a digital camera. Movement of the

substrates 56 in the direction 96 moves the line represented by the location 102 across upper surfaces of the substrates 56 so that two-dimensional areas of the upper surfaces of the substrates 56 are scanned. A computer knows the speed at which the test chuck 32 moves in a direction 96 so that a two-dimensional image of the upper surfaces of each of the substrates 56 is rendered by logic of the computer. (See paragraphs [0047], pages 11-12).

On the other hand, Nakagomi uses at least two CCD cameras, CCD 34a and CCD 34b, to align the stage 3 (not a substrate). Nakagomi only taught the uses to two cameras to align pins 33 and probes 32 provided on probe board 25. In addition, the alignment process is also different in Nakagomi.

“As shown in FIG. 5B, a transparent glass 38 with a cross mark 39 is arranged in front of an objective lens of the first CCD camera 34a. As shown in FIG. 5A, the stage 3 of the placing section 105 is moved from a test position (or home position) to an alignment calibration position in the X-axis direction to position the first CCD camera 34a directly beneath the second CCD camera 34b, whereby stage 3 is alignment calibrated with respect to a probe 32.” (See Nakagomi, col. 6, lines 32-40).

In addition, “subjects are picked up by the CCD cameras 34a, 34b. The subjects to be picked up by the first CCD camera 34a are the alignment pins 33 and the probes 32. The subjects to be picked up by the second CCD camera 34b are the pads P and alignment marks 31a, 31b on the LCD substrate 2. An image picked up as image information is sent to the image forming section 47 in which the image is formed to display on a monitor 48.” (See Nakagomi, col. 7, lines 33-41).

Then, “the controller 23 is connected to another control means (not shown) for adjusting the position of the substrate 2 on the basis of the positional information sent

individually from the CCD camera 34 of the alignment block. The control means (not shown) calculates the dislocation of the substrate 2 on the stage 3 at alignment positions in the X-axis, Y-axis, θ -rotation directions on the basis of the positional information sent to the CCD camera 34, and controls the X-axis direction drive motor 19, the Y-axis direction drive motor 14, the Z-axis direction drive motor 21, and the θ -rotation drive motor 22 according to these calculated results.

In Nakagomi, no image of the substrate is taken. Nakagomi thus taught a different way of aligning the substrate (by aligning the stage 3). Different from Nakagomi, Applicant's invention requires recording an image of a surface of the substrate in order to do the alignment of the substrate prior to electrical testing.

Therefore, Nakagomi does not anticipate claims 1-9, 15, 16, and 18-22 and Applicant thus, respectfully requests the withdrawal of this rejection.

35 U.S.C. § 103(a) Rejection

Claims 10-14, and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakagomi, in view of Takahashi, et al., (U.S. Patent No. 6,111,421, hereinafter "Takahashi").

Applicant respectfully disagrees. First, Nakagomi did not disclose the "recording an image of a surface of the substrate before having moved off the transfer chuck" element. As previously discussed, no image of the substrate is taken in Nakagomi. Nakagomi taught a different way of aligning the substrate (by aligning the stage 3). Different from Nakagomi, Applicant's invention requires recording an image of a surface of the substrate in order to do the alignment of the substrate prior to electrical testing.

Second, Takahashi also did not disclose the "recording an image of a surface of

the substrate before having moved off the transfer chuck”

Therefore, the Nakagomi and Takahashi, alone or in combination could have not lead to or made obvious the methods and apparatuses disclosed in Applicant’s invention and as claimed in claims 10-14, and 17.

Applicant respectfully requests the withdrawal of the rejection.

As discussed below, the pending claims are patentable over the above reference.

Deposit Account Authorization

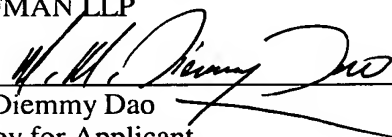
Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Mimi Diemmy Dao at (408) 720-8300.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR
& ZAFMAN LLP

Dated: August 7, 2003


Mimi Diemmy Dao
Attorney for Applicant
Registration No. 45,628

Customer No. 008791
12400 Wilshire Blvd.
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8300